

REMARKS

The Examiner rejects claims 7-10 and 17-20 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.

The Examiner objects to the terms "tactile interaction" and "tactile stimulation."

As these terms were included in the original claims, it is improper as a matter of law to reject them for failing to comply with the written description requirement.

Nevertheless, the Applicants will attempt to address the Examiner's misunderstanding.

The Examiner states:
the original filed 09/17/2003, and amendment filed 6/29/2006. In that claims, applicant has stated "tactile interaction," and "tactile stimulation," and this statement indicates that the invention is different from what is defined in the specification which describes the triangulation method of touching a shockwave on the surface of the touch screen display panel at page 7. Where is the limitation "tactile interaction" and "tactile stimulation" supporting in the specification?

The Examiner states that the statements in the original claims of tactile interaction and tactile stimulation "indicate" that the invention is different from what is defined in the specification. This is not correct. The tactile interaction and tactile stimulation is an essential part of the present invention because it is

this tactile stimulation/interaction which creates the shockwave, which is then detected using the triangulation method.

The Examiner also makes a puzzling statement of "the specification which describes the triangulation method *of touching a shockwave on the surface of the touch screen.*"

The Applicants want to be certain that the Examiner understands that the triangulation method involves *touching the surface of the touch screen to create a shockwave, not touching the shockwave.*

Lastly, the Applicants will answer the Examiner's question of:

"Where is the limitation of the "tactile interaction" and the "tactile stimulation" supporting (sic) in the specification?"

As stated above, these limitations were found in the original claims and are thusly part of the specification. Moreover, the act of tactile stimulation and interaction, i.e., touching the screen, is described repeatedly throughout the specification.

The Applicants have amended claims 1 and 17. The Examiner has rejected all of the claims based upon the Yoshimura reference alone or in combination with other references. The Yoshimura reference teaches a touch screen which is vastly different from the claimed invention.

The Examiner incorrectly reads the Yoshimura reference and incorrectly equates the shockwave created by the tactile interaction or tap-generated shockwave of the pending claims with the transducer-generated vibration of the vibrating pen 3 of the Yoshimura reference.

Yoshimura teaches the manipulation of a frequency to create a resonant frequency so as to generate ultrasonic waves.

The present invention is very different. The present invention does NOT use a transducer, vibrator or the like to generate a predetermined vibration. Instead, the present invention deals with a wave, referred to now in claim 1 as a **tap-generated shockwave**, which is GENERATED BY A FINGER, ETC. when it contacts or taps the panel surface.

When examining a claim for obviousness or anticipation, each and every limitation of the claim must be considered. When the claims, as amended, are considered, it becomes clear that the Yoshimura reference and those added to teach additional details fail to teach all of the limitations of each of the claims.

Claim 17 has been amended to include a limitation to detection of a **tap-generated** shockwave which is generated at the point of tactile stimulation on the viewing surface. Clearly, Yoshimura does not teach or even suggest that any wave be generated by tactile stimulation. Indeed, the Examiner admits the following:

Yoshimura fails to teach a touch screen display panel including a tactile stimulation.

and also states:

Yoshimura fails to teach tapping a first location on said viewing area and thereby generating a shockwave as a result of such tapping.

With the claims as amended, the notion of tapping to generate a shockwave or tactile stimulation is included in all of the claims.

Claim 1, as amended, includes the following limitation:

"said plurality of shockwave detectors configured to use a time of arrival of a *tap-generated* shockwave to determine a point of origin of the *tap-generated* shockwave in the liquid crystal panel which results from a touch occurring at said point of origin"
(emphasis added).

As with claim 17, claim 1 is limited to determination of the point of origin of a shockwave which results from a touch or tap. Yoshimura does not teach this. Yoshimura, with its vibrating pen 3, does not generate a shockwave, but a controlled vibration at a variable frequency.

Claim 11 includes the following limitations:

“tapping a first location on said viewing area and
thereby ***generating a shockwave as a result of***
such tapping;

providing a plurality of shockwave detectors which are
not located at a single location;

detecting an arrival of said shockwave at each of said
plurality of shockwave detectors;

determining a time of arrival of said shockwave at
each of said plurality of shockwave detectors; and,...

As stated with respect to the above claims, Yoshimura does not teach detecting a shockwave which is generated by the touching. Yoshimura is quite different. Yoshimura teaches continuously generating a plurality of variable frequency waves.

Since Yoshimura fails to teach the tapping limitation, the tap-generated shockwave limitations, and the tactile stimulation limitations, the other references then must teach such a tapping to generate a shockwave and provide some teaching for combining the same. The other references do not.

Umemoto's optical touch panel is not cited for teaching a tap-generated shockwave. Duwaer is cited for teaching a thin film transistor layer and not for

any tap-generated shock waves. Koh is misunderstood. Koh is incorrectly cited for teaching generation of a shockwave as a result of tapping on the viewing surface of an LCD. The Examiner cites Col. 3, lines 30-45:

2 resides in the memory. The display and input assembly 4 is both an input and an output device. When acting as an output device, the assembly 4 receives data from the processor and displays that data on a suitable display screen. The display screen is preferably a liquid crystal display (LCD), which is also known as a liquid crystal module (LCM). Such a LCM relies on absorption of ambient light to differentiate displayed dots or segments from a reflective background. The input device of the display assembly 4 is preferably a thin, transparent membrane which covers the LCM. This input device is sensitive to the position of the stylus 8 on its surface. The membrane of the display assembly 4 serves as an input tablet or panel. This clear membrane may use mechanical buttons, crossed beams of infrared light, acoustic surface waves, capacitance sensing, resistive sensing, and other sensing methods to detect the position of the stylus 8 on its surface.

and Col. 5, lines 45-53:

portion 32 or in the secondary portion 33. If it is determined that the input is on the main portion 32, the input will be processed according to methods commonly known to those skilled in the art. The most common of such methods is for the device driver 10 to send information, such as information regarding the location of the touch and whether the touch is a single tap or a double tap, to the application program 12. The application program 12 on receiving the information processes the information accordingly.

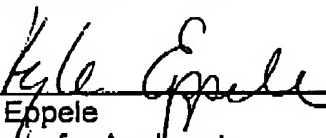
Yes, Koh does refer to a tap or even a double tap. However, Koh clearly states that no new teachings of how to process the input of the information is provided, and indeed, the well-known prior art methods are employed. In Col. 3, lines 41-45, Koh gives a list of prior art methods. Koh there mentions surface

acoustic waves. This is NOT a teaching of a *tap-generated shockwave* at the point of tactile stimulation. Indeed, in the last office action, the Examiner cited the Toda reference which teaches the use of surface acoustic waves which are NOT generated at the point of tactile stimulation. There is absolutely no teaching by Koh (and, of course, Yoshimura) of generating a shock wave by tactile stimulation such as tapping, and then using that shockwave to determine the location of the tactile stimulation.

Consequently, the Yoshimura reference and the other references also cited with Yoshimura, fail to establish a prima facie case of obviousness and anticipation with respect to the claims, as amended, which all include the notion of tactile stimulation to generate a shockwave, which then detected to determine the location of the tactile stimulation or tapping.

The Applicants believe that the application is in condition for allowance, and early notification of the same would be much appreciated.

Respectfully submitted,



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